Mathematical Biosciences

an international journal

Volume 156 Numbers 1&2 March 1, 1999

Preface v

Epidemiology, Cellular Automata, and Evolution

C.A. Braumann, Variable effort fishing models in random environments 1
I. Nasell, On the quasi-stationary distribution of the stochastic logistic epidemic 21
F. Ball, Stochastic and deterministic models for SIS epidemics among a population partitioned into households 41
W.-Y. Tan and Z. Xiang, Some state space models of HIV pathogenesis under treatment by anti-viral drugs in HIV-infected individuals 69
C.J. Mode and C.K. Sleeman, A new design of stochastic partnership models for epidemics of sexually transmitted diseases with stages 95
C.K. Sleeman and C.J. Mode, A computer exploration of some properties of non-linear stochastic partnership models for sexually transmitted diseases with stages 123
L. Rass and J. Radcliffe, The derivation of certain pandemic bounds 147
S. Stöcker, Models for tuna school formation 167
M. Markus, D. Böhm and M. Schmick, Simulation of vessel morphogenesis using cellular automata 191
W. Alt and M. Dembo, Cytoplasm dynamics and cell motion: two-phase flow models 207
R. Díaz-Sierra, B. Hernández-Bermejo and V. Fairén, Graph-theoretic description of the interplay between non-linearity and connectivity in biological systems 229
A. Deutsch and A.T. Lawniczak, Probabilistic lattice models of collective motion and aggregation: from individual to collective dynamics 255
D.M. Holloway and L.G. Harrison, Suppression of positional errors in biological development 271
J. Radcliffe and L. Rass, Strategic and genetic models of evolution 291
E. Finke and G. Jetschke, How inbreeding and outbreeding influence the risk of extinction – a genetically explicit model 309
J. Maruyama and H. Seno, Mathematical modelling for intra-specific brood-parasitism: coexistence between parasite and non-parasite 315

Author index 339
Subject index 341

Elsevier